

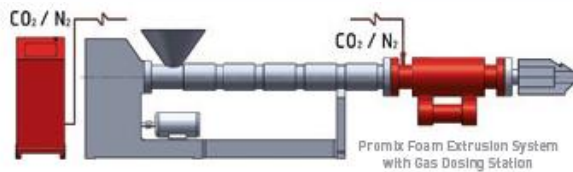
PK foam

I . N₂ foam

Extrusion foaming (by Promix machine)

Foaming conditions and equipment

- Nucleation: 0.4% Procell
- Blowing agent: 14-17g/h N₂ @ 20kg/h throughput

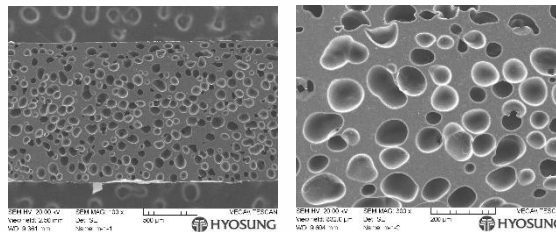


Result

	M710F	A	B	C	D	E	F
Sheet thickness (mm)	-	0.60	0.73	1.35	1.32	1.90	1.81
Density (g/L)	1220	785	705	660	620	655	625
Cell Size (μm)	-	260	300	110	200	70	110



PK foam sheet appearance



SEM image of PK foam sheet

Mechanical property

		Width (mm)	Thickness (mm)	Young's Modulus (MPa)	Tensile strength at break (MPa)	Tensile strain at break (%)
M710F sheet	MD	25	0.5	1436	80	480
	TD	25	0.5	1564	46	533
Foam sheet (d=785g/L)	MD	25	0.6	599	15	274
	TD	25	0.6	488	15	27
Foam sheet (d=705g/L)	MD	25	0.73	552	15	322
	TD	25	0.73	369	13	54

PK foam

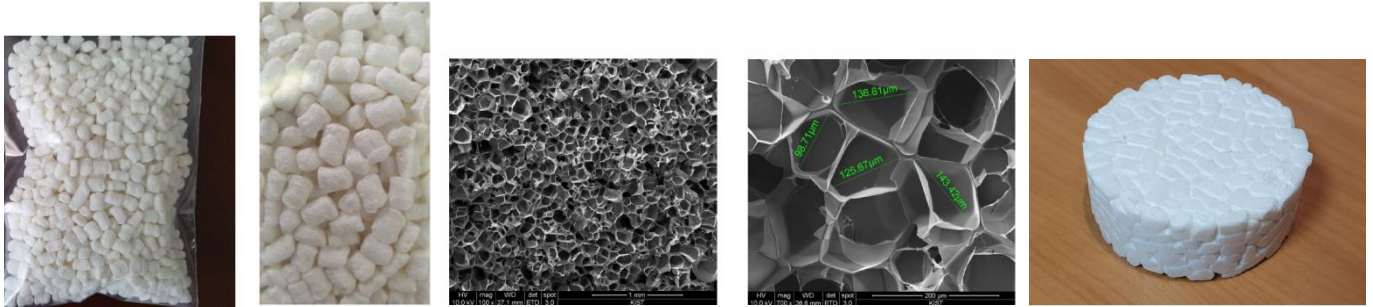
II. CO₂ foam

Bead foaming (by Autoclave)

Typical bead foaming conditions by autoclave are as follows.

- Temp.: 145 ~ 150°C
- Pressure: 20 ~ 50 bar
- Holding time: 10 ~ 30min

Result (Grade: M710F, 10 times more foaming pellet molding possible)



PK Foam pellet appearance

SEM image of PK foam pellet

Foam by steam mold

Density according to test conditions

Temp.(°C)	Press.(bar)	Holding Time (min)	Density(g/cm ³)
148	20	30	0.45
149	20	30	0.27
150	20	30	0.11
149	30	30	0.13
145	50	30	0.45
146	50	30	0.26
147	50	30	0.16
147.5	50	30	0.10
148	50	30	0.08
147	50	10	0.19
147.5	50	10	0.12
148	50	10	0.09